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Applicant respectfully requests reconsideration and allowance of all of the claims of the present application. Claims 1-21, 26-32 and 34-35 are presently pending. Claims 1, 10, 15, 26, 32, and 35 are amended. No new claims are added. Claim 33 is cancelled.

Claims 32 and 34-35 stand rejected under 35 U.S.C. § 112, second paragraph, as being “incomplete for omitting essential cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections.” Specifically, the Office Action argues that these claims omit the functional/structural/connectional interrelationships of element “differential signal conductors” with other elements (e.g., “transmitter package”, “receiver package”, “plurality of conductors”) in order to make a system associated with the claimed method as a complete operative and connective system. Applicant has amended claims 32 and 35 and respectfully requests that the Office withdraw the § 112 rejections.

Claims 1-21, 26-32 and 34-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over prior art admitted by the applicant in the specification in the instant application in view of U.S. Patent No. 5,282,754 to Kish et al

1 (hereinafter “Kish”). Applicant traverses these rejections and asks that they be  
2 withdrawn and the case passed along to issuance.

3  
4 **Claims 1-9**

5 As amended, **claim 1** recites an apparatus comprising [amendatory  
6 language appears in bold italics]:

- 7
- 8 • a first device;
  - 9 • a first connector coupled to the first device;
  - 10 • a second connector coupled to the first connector through a first  
11 plurality of conductors, wherein alternating pairs of conductors are  
12 reversed such that at least one pair of conductors is reversed at a  
***crossover*** position ***located substantially*** closer to the first connector  
than the second connector; and
  - 13 • a second device coupled to the second connector through a second  
14 plurality of conductors.

15 In making out the rejection of claim 1, the Office Action states that Kish’s  
16 crossover position must be at the mid-point between conductor pairs. Applicant  
17 agrees. The Office Action then argues that “there are inherently plural of points  
18 among plural of continuous points positioned from positions (30, 32) of a first  
19 connector (10) to positions (52, 54) of a second connector (50) wherein said plural  
20 of points are at positions closer to the first connector than the second connector.”  
21 Applicant amends the language of claim 1 in order to clarify that the ***crossover***  
22 position is ***located substantially*** closer to the first connector than the second  
23 connector. Accordingly, for at least this reason, claim 1 is allowable.

24 **Claims 2-9** depend from claim 1 and, as such, are allowable as depending  
25 from an allowable base claim. These claims are also allowable for their own  
recited features which, in combination with those recited in claim 1, are neither

1 shown nor suggested by the cited references, either singly or in combination with  
2 one another.

3  
4 **Claims 10-14**

5 As amended, **claim 10** recites an apparatus comprising [amendatory  
6 language appears in bold italics]:

- 7
- 8 • a first integrated circuit including a plurality of differential drivers;
  - 9 • a first connector coupled to the first integrated circuit;
  - 10 • a second connector coupled to the first connector through a plurality  
11 of electrical conductors, wherein alternating pairs of the electrical  
12 conductors are reversed such that at least one pair of conductors is  
13 reversed at a ***crossover*** position ***located substantially*** closer to the  
14 first connector than the second connector; and
  - 15 • a second integrated circuit coupled to the second connector, wherein  
16 the second integrated circuit includes a plurality of differential  
17 receivers.

18 In making out the rejection of claim 10, the Office Action states that Kish's  
19 crossover position must be at the mid-point between conductor pairs. Applicant  
20 agrees. The Office Action then argues that "there are inherently plural of points  
21 among plural of continuous points positioned from positions (30, 32) of a first  
22 connector (10) to positions (52, 54) of a second connector (50) wherein said plural  
23 of points are at positions closer to the first connector than the second connector."  
24 Applicant amends the language of claim 10 in order to clarify that the ***crossover***  
25 position is ***located substantially*** closer to the first connector than the second  
connector. Accordingly, for at least this reason, claim 10 is allowable.

26 **Claims 11-14** depend from claim 10 and, as such, are allowable as  
27 depending from an allowable base claim. These claims are also allowable for their  
28 own recited features which, in combination with those recited in claim 10, are

1 neither shown nor suggested by the cited references, either singly or in  
2 combination with one another.

3  
4 **Claims 15-21**

5 As amended, **claim 15** recites an apparatus comprising [amendatory  
6 language appears in bold italics]:

- 7
- 8 • a printed circuit board;
  - 9 • a plurality of connectors disposed on the printed circuit board;
  - 10 • a first integrated circuit disposed on a first substrate, wherein the  
11 first substrate is configured to be coupled to one of the plurality of  
12 connectors;
  - 13 • a second integrated circuit disposed on a second substrate, wherein  
14 the second substrate is configured to be coupled to one of the  
15 plurality of connectors; and
  - 16 • a first plurality of electrical conductors coupled to the plurality of  
17 connectors, wherein alternating pairs of conductors between adjacent  
18 connectors are reversed such that at least one pair of conductors is  
19 reversed at a ***crossover*** position ***located substantially*** closer to one  
20 of the plurality of connectors than another of the plurality of  
21 connectors.

22 In making out the rejection of claim 15, the Office Action states that Kish's  
23 crossover position must be at the mid-point between conductor pairs. Applicant  
24 agrees. The Office Action then argues that "there are inherently plural of points  
25 among plural of continuous points positioned from positions (30, 32) of a first  
connector (10) to positions (52, 54) of a second connector (50) wherein said plural  
of points are at positions closer to the first connector than the second connector."  
Applicant amends the language of claim 15 in order to clarify that the ***crossover***  
position is ***located substantially*** closer to one of the plurality of connectors than

1 another of the plurality of connectors. Accordingly, for at least this reason, claim  
2 15 is allowable.

3 **Claims 16-21** depend from claim 15 and, as such, are allowable as  
4 depending from an allowable base claim. These claims are also allowable for their  
5 own recited features which, in combination with those recited in claim 15, are  
6 neither shown nor suggested by the cited references, either singly or in  
7 combination with one another.

8  
9 **Claims 26-31**

10 As amended, **claim 26** recites a method comprising [amendatory language  
11 appears in bold italics]:

- 12
- 13 • generating a plurality of differential signals;
  - 14 • transmitting the plurality of differential signals through a first  
15 connector and a second connector to a plurality of differential  
16 receivers;
  - 17 • reversing the polarity of alternating differential signals at a ***crossover***  
18 position ***located substantially*** closer to the first connector than the  
19 second connector; and
  - 20 • reversing the polarity of alternating differential signals between the  
21 second connector and the plurality of differential receivers.

18 In making out the rejection of claim 26, the Office Action states that Kish's  
19 crossover position must be at the mid-point between conductor pairs. Applicant  
20 agrees. The Office Action then argues that "there are inherently plural of points  
21 among plural of continuous points positioned from positions (30, 32) of a first  
22 connector (10) to positions (52, 54) of a second connector (50) wherein said plural  
23 of points are at positions closer to the first connector than the second connector."  
24 Applicant amends the language of claim 26 in order to clarify that the ***crossover***  
25

1 position is *located substantially* closer to the first connector than the second  
2 connector. Accordingly, for at least this reason, claim 26 is allowable.

3  
4 **Claims 27-31** depend from claim 26 and, as such, are allowable as  
5 depending from an allowable base claim. These claims are also allowable for their  
6 own recited features which, in combination with those recited in claim 26, are  
7 neither shown nor suggested by the cited references, either singly or in  
8 combination with one another.

9  
10 **Claims 32 and 34-35**

11 As amended, **claim 32** recites a method comprising [relevant amendatory  
12 language appears in bold italics]:

- 13
- 14 • modifying a transmitter package such that the coupling coefficient of  
the transmitter package is substantially the same as the coupling  
coefficient of a receiver package;
  - 15 • transmitting multiple pairs of differential signals across a plurality of  
conductors using the transmitter package;
  - 16 • reversing polarity of alternating pairs of differential signal  
conductors such that at least one pair of conductors is reversed at a  
17 *crossover* position *located substantially* closer to the transmitter  
package than the receiver package; and
  - 18 • receiving the multiple pairs of differential signals using the receiver  
package.
- 19  
20

21 In making out the rejection of claim 32, the Office Action states that Kish's  
22 crossover position must be at the mid-point between conductor pairs. Applicant  
23 agrees. The Office Action then argues that "there are inherently plural of points  
24 among plural of continuous points positioned from positions (30, 32) of a first  
25 connector (10) to positions (52, 54) of a second connector (50) wherein said plural

1 of points are at positions closer to the first connector than the second connector.”  
2 Applicant amends the language of claim 32 in order to clarify that the *crossover*  
3 position is *located substantially* closer to the transmitter package than the receiver  
4 package. Accordingly, for at least this reason, claim 32 is allowable.

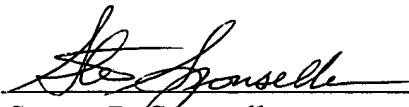
5 **Claims 34-35** depend from claim 32 and, as such, are allowable as  
6 depending from an allowable base claim. These claims are also allowable for their  
7 own recited features which, in combination with those recited in claim 32, are  
8 neither shown nor suggested by the cited references, either singly or in  
9 combination with one another.

10  
11 **Conclusion**

12 All pending claims are in condition for allowance. Applicant respectfully  
13 requests reconsideration and prompt issuance of the application. If any issues  
14 remain that prevent issuance of this application, the Examiner is urged to contact  
15 the undersigned attorney before issuing a subsequent Office Action.  
16

17 Respectfully Submitted,

18  
19 Dated: 9-13-04

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